

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0004      **USGS Hydrologic Unit:** 051201111804  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** N Old 41      **Latitude:** 38 46 24.47793      **Longitude:** -87 28 21.95307  
**Drainage:**      **Site Number:** 20T-001

**SiteID:** WBU-18-0004      **Sample Date:** 6/16/2020      **IDEM Sample #:** AB42533  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	95.6 %		ASTM D888-09(C)
DO	8.37 mg/L		ASTM D888-09(C)
pH (Field)	7.87 SU		EPA 150.2
Specific Conductance (Field)	722 umho/cm		SM2510B
Temperature	21.6 °C		SM2550B(2)
Turbidity (Hach)	7.33 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

<b>Lab ID #: 500-183767-18</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	210 mg/L	5	SM2320B
Chloride	40 mg/L	2	EPA 300.0
Hardness (as CaCO3)	280 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	7.5 mg/L	5	SM2540D
Solids, Total (TS)	540 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	490 mg/L	10	SM2540C
Sulfate	98 mg/L	4	EPA 300.0
Calcium (Total)	75 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7

<b>Lab ID #: AB42533</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	124.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0004      **Sample Date:** 6/22/2020      **IDEM Sample #:** AB42669  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	166.9 %		ASTM D888-09(C)
DO	13.44 mg/L		ASTM D888-09(C)
pH (Field)	8.24 SU		EPA 150.2
Specific Conductance (Field)	797 umho/cm		SM2510B
Temperature	26.4 °C		SM2550B(2)
Turbidity (Hach)	5.49 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**SiteID:** WBU-18-0004      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB43061  
**Water Flow Type** Glide      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	87.3 %		ASTM D888-09(C)
DO	6.76 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	620 umho/cm		SM2510B
Temperature	28.5 °C		SM2550B(2)
Turbidity (Hach)	10.3 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-17

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	190 mg/L	5	SM2320B
Chloride	26 mg/L	2	EPA 300.0
Hardness (as CaCO3)	200 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	12 mg/L	5	SM2540D
Solids, Total (TS)	420 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	30	SM2540C
Sulfate	77 mg/L	2	EPA 300.0
Calcium (Total)	49 mg/L	0.2	EPA 200.7
Magnesium (Total)	20 mg/L	0.1	EPA 200.7
COD	19 mg/L	10	SM5220C
Nitrogen, Ammonia	0.27 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.077 mg/L	0.05	SM4500P-E
TKN	0.46 mg/L	0.4	SM4500N(Org)-D
TOC	3 mg/L	1	SM5310C

Lab ID #: AB43061

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172.5 MPN/100mL	1	SM9223B

SiteID: WBU-18-0004

Sample Date: 7/14/2020

IDEM Sample #: AB42979

Water Flow Type Pool

Water Appearance Murky

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:

	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	74.5 %		ASTM D888-09(C)
DO	6.19 mg/L		ASTM D888-09(C)
pH (Field)	7.77 SU		EPA 150.2
Specific Conductance (Field)	680 umho/cm		SM2510B
Temperature	24.6 °C		SM2550B(2)
Turbidity (Hach)	11.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0004      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB43081  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Very low flow

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	78.9 %		ASTM D888-09(C)
DO	6.43 mg/L		ASTM D888-09(C)
pH (Field)	7.67 SU		EPA 150.2
Specific Conductance (Field)	710 umho/cm		SM2510B
Temperature	25.7 °C		SM2550B(2)
Turbidity (Hach)	7.95 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43081	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	285.1 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0004      **Sample Date:** 7/22/2020      **IDEM Sample #:** AB43101  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Stream flow is up due to recent rain

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	69.4 %		ASTM D888-09(C)
DO	5.95 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	304 umho/cm		SM2510B
Temperature	23.1 °C		SM2550B(2)
Turbidity (Hach)	861 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43101a	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	241960 MPN/100mL	100	SM9223B
E. coli	9870 MPN/100mL	100	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0004      Sample Date: 7/29/2020      IDEM Sample #: AB43121  
 Water Flow Type Pool      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	91.2 %		ASTM D888-09(C)
DO	7.28 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	378 umho/cm		SM2510B
Temperature	26.8 °C		SM2550B(2)
Turbidity (Hach)	23 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43121	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172.5 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
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Surface Water Results Summary**

**SiteID:** WBU-18-0006      **USGS Hydrologic Unit:** 051201111804  
**Stream Name:** Cotton Branch      **County:** Knox  
**Description:** E Springtown Road      **Latitude:** 38 48 17.43643      **Longitude:** -87 26 12.60862  
**Drainage:**      **Site Number:** 20T-003

**SiteID:** WBU-18-0006      **Sample Date:** 6/16/2020      **IDEM Sample #:** AB42532  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	91.5 %		ASTM D888-09(C)
DO	8.67 mg/L		ASTM D888-09(C)
pH (Field)	7.96 SU		EPA 150.2
Specific Conductance (Field)	568 umho/cm		SM2510B
Temperature	17.9 °C		SM2550B(2)
Turbidity (Hach)	5.47 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

<u>Lab ID #:</u> 500-183767-17	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	230 mg/L	5	SM2320B
Chloride	16 mg/L	2	EPA 300.0
Hardness (as CaCO3)	290 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	5.5 mg/L	5	SM2540D
Solids, Total (TS)	440 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	420 mg/L	10	SM2540C
Sulfate	31 mg/L	2	EPA 300.0
Calcium (Total)	75 mg/L	0.2	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.29 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	4.7 mg/L	1	SM4500NO3-F
Phosphorus, Total	0.038 mg/L	0.05	SM4500P-E
TKN	0.71 mg/L	0.4	SM4500N(Org)-D
TOC	1.2 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42532	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	248.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
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Surface Water Results Summary**

**SiteID:** WBU-18-0006      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB42670  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	88.1 %		ASTM D888-09(C)
DO	7.87 mg/L		ASTM D888-09(C)
pH (Field)	8.04 SU		EPA 150.2
Specific Conductance (Field)	558 umho/cm		SM2510B
Temperature	20.8 °C		SM2550B(2)
Turbidity (Hach)	5.27 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

**SiteID:** WBU-18-0006      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB43060  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	89 %		ASTM D888-09(C)
DO	7.87 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	557 umho/cm		SM2510B
Temperature	21.4 °C		SM2550B(2)
Turbidity (Hach)	9.64 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-16	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	240 mg/L	5	SM2320B
Chloride	13 mg/L	2	EPA 300.0
Hardness (as CaCO3)	250 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	13 mg/L	5	SM2540D
Solids, Total (TS)	420 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	230 mg/L	30	SM2540C
Sulfate	27 mg/L	2	EPA 300.0
Calcium (Total)	65 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	< 10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.23 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5.3 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.07 mg/L	0.05	SM4500P-E
TKN	0.5 mg/L	0.4	SM4500N(Org)-D
TOC	1.4 mg/L	1	SM5310C

Lab ID #: AB43060	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	461.1 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0006      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB42978  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.9 %		ASTM D888-09(C)
DO	8.2 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	570 umho/cm		SM2510B
Temperature	19.2 °C		SM2550B(2)
Turbidity (Hach)	7.06 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0006      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB43080  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Very low flow

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	88.4 %		ASTM D888-09(C)
DO	8.18 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	550 umho/cm		SM2510B
Temperature	19 °C		SM2550B(2)
Turbidity (Hach)	5.62 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43080	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	517.2 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0006      **Sample Date:** 7/22/2020      **IDEM Sample #:** AB43100  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Stream flow is up due to recent rain

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	75.4 %		ASTM D888-09(C)
DO	6.56 mg/L		ASTM D888-09(C)
pH (Field)	7.3 SU		EPA 150.2
Specific Conductance (Field)	207 umho/cm		SM2510B
Temperature	22.2 °C		SM2550B(2)
Turbidity (Hach)	136 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43100a	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 241960 MPN/100mL	241960	SM9223B
E. coli	11780 MPN/100mL	100	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0006

Sample Date: 7/29/2020

IDEM Sample #: AB43120

Water Flow Type Run

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.4 %		ASTM D888-09(C)
DO	7.75 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	562 umho/cm		SM2510B
Temperature	22.3 °C		SM2550B(2)
Turbidity (Hach)	7.05 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43120	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	686.7 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
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Surface Water Results Summary**

**SiteID:** WBU-18-0007      **USGS Hydrologic Unit:** 051201111804  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** N Perry Road      **Latitude:** 38 48 40.75368      **Longitude:** -87 25 4.32367  
**Drainage:**      **Site Number:** 20T-004

**SiteID:** WBU-18-0007      **Sample Date:** 6/16/2020      **IDEM Sample #:** AB42531  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	135.1 %		ASTM D888-09(C)
DO	11.53 mg/L		ASTM D888-09(C)
pH (Field)	8.1 SU		EPA 150.2
Specific Conductance (Field)	759 umho/cm		SM2510B
Temperature	23.1 °C		SM2550B(2)
Turbidity (Hach)	6.77 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

<u>Lab ID #:</u> 500-183767-16	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	49 mg/L	2	EPA 300.0
Hardness (as CaCO3)	280 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	12 mg/L	5	SM2540D
Solids, Total (TS)	590 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	550 mg/L	10	SM2540C
Sulfate	120 mg/L	4	EPA 300.0
Calcium (Total)	74 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	11 mg/L	10	SM5220C
Nitrogen, Ammonia	0.17 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.055 mg/L	0.05	SM4500P-E
TKN	0.62 mg/L	0.4	SM4500N(Org)-D
TOC	2.2 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42531	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	139.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0007      **Sample Date:** 6/22/2020      **IDEM Sample #:** AB42671  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	173.6 %		ASTM D888-09(C)
DO	14.62 mg/L		ASTM D888-09(C)
pH (Field)	8.25 SU		EPA 150.2
Specific Conductance (Field)	638 umho/cm		SM2510B
Temperature	23.9 °C		SM2550B(2)
Turbidity (Hach)	5.41 NTU		EPA 180.1
Air Temp	Lookup		Observation
Sky Conditions	Lookup		Observation
Wind Direction	Lookup		Observation
Wind Strength	Lookup		Observation

**SiteID:** WBU-18-0007      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB43059  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	174.7 %		ASTM D888-09(C)
DO	13.36 mg/L		ASTM D888-09(C)
pH (Field)	8.26 SU		EPA 150.2
Specific Conductance (Field)	630 umho/cm		SM2510B
Temperature	29.3 °C		SM2550B(2)
Turbidity (Hach)	9.45 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-15	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	32 mg/L	2	EPA 300.0
Hardness (as CaCO3)	240 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	12 mg/L	5	SM2540D
Solids, Total (TS)	470 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	250 mg/L	30	SM2540C
Sulfate	97 mg/L	4	EPA 300.0
Calcium (Total)	61 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	0.23 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.6 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.075 mg/L	0.05	SM4500P-E
TKN	0.65 mg/L	0.4	SM4500N(Org)-D
TOC	2.7 mg/L	1	SM5310C

Lab ID #: AB43059	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	26.2 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0007      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB42961  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	213.6 %		ASTM D888-09(C)
DO	15.88 mg/L		ASTM D888-09(C)
pH (Field)	8.42 SU		EPA 150.2
Specific Conductance (Field)	816 umho/cm		SM2510B
Temperature	30.8 °C		SM2550B(2)
Turbidity (Hach)	16 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0007      Sample Date: 7/15/2020      IDEM Sample #: AB43079  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	142.8 %		ASTM D888-09(C)
DO	11.79 mg/L		ASTM D888-09(C)
pH (Field)	8.1 SU		EPA 150.2
Specific Conductance (Field)	757 umho/cm		SM2510B
Temperature	24.9 °C		SM2550B(2)
Turbidity (Hach)	7.11 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB43079</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	88.9 MPN/100mL	1	SM9223B

SiteID: WBU-18-0007      Sample Date: 7/22/2020      IDEM Sample #: AB43099  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Stream flow is up due to recent rain

Lab ID #:	Result	Reporting Limit	Method
% Sat	72.6 %		ASTM D888-09(C)
DO	6.26 mg/L		ASTM D888-09(C)
pH (Field)	7.78 SU		EPA 150.2
Specific Conductance (Field)	199 umho/cm		SM2510B
Temperature	22.8 °C		SM2550B(2)
Turbidity (Hach)	> 1000 NTU	1000	EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB43099a</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 241960 MPN/100mL	241960	SM9223B
E. coli	64880 MPN/100mL	100	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0007

Sample Date: 7/29/2020

IDEM Sample #: AB43119

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	201.3 %		ASTM D888-09(C)
DO	14.84 mg/L		ASTM D888-09(C)
pH (Field)	8.35 SU		EPA 150.2
Specific Conductance (Field)	698 umho/cm		SM2510B
Temperature	31.3 °C		SM2550B(2)
Turbidity (Hach)	7.65 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43119	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	85.5 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0008      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** N Risley Road      **Latitude:** 38 49 21.98872      **Longitude:** -87 23 29.96194  
**Drainage:**      **Site Number:** 20T-005

**SiteID:** WBU-18-0008      **Sample Date:** 6/16/2020      **IDEM Sample #:** AB42530  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	96.4 %		ASTM D888-09(C)
DO	8.5 mg/L		ASTM D888-09(C)
pH (Field)	7.92 SU		EPA 150.2
Specific Conductance (Field)	592 umho/cm		SM2510B
Temperature	21.7 °C		SM2550B(2)
Turbidity (Hach)	24.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	3 Lookup		Observation

<u>Lab ID #:</u> 500-183767-15	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	20 mg/L	2	EPA 300.0
Hardness (as CaCO3)	240 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	25 mg/L	5	SM2540D
Solids, Total (TS)	520 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	450 mg/L	10	SM2540C
Sulfate	68 mg/L	2	EPA 300.0
Calcium (Total)	61 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.096 mg/L	0.05	SM4500P-E
TKN	0.82 mg/L	0.4	SM4500N(Org)-D
TOC	2.4 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42530	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	184.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0008      **Sample Date:** 6/22/2020      **IDEM Sample #:** AB42672  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	104.5 %		ASTM D888-09(C)
DO	9.01 mg/L		ASTM D888-09(C)
pH (Field)	7.94 SU		EPA 150.2
Specific Conductance (Field)	556 umho/cm		SM2510B
Temperature	22.7 °C		SM2550B(2)
Turbidity (Hach)	7.72 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

**SiteID:** WBU-18-0008      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB43058  
**Water Flow Type** Glide      **Water Appearance** Green      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	79.3 %		ASTM D888-09(C)
DO	6.06 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	662 umho/cm		SM2510B
Temperature	29.3 °C		SM2550B(2)
Turbidity (Hach)	32 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-14	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	220 mg/L	5	SM2320B
Chloride	17 mg/L	2	EPA 300.0
Hardness (as CaCO3)	250 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	32 mg/L	5	SM2540D
Solids, Total (TS)	490 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	280 mg/L	30	SM2540C
Sulfate	92 mg/L	4	EPA 300.0
Calcium (Total)	60 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.25 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.075 mg/L	0.05	SM4500P-E
TKN	0.53 mg/L	0.4	SM4500N(Org)-D
TOC	2.8 mg/L	1	SM5310C

Lab ID #: AB43058	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	161.6 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0008      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB42977  
**Water Flow Type** Pool      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	74.08 %		ASTM D888-09(C)
DO	6.11 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	840 umho/cm		SM2510B
Temperature	25 °C		SM2550B(2)
Turbidity (Hach)	35.6 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0008      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB43078  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	81.8 %		ASTM D888-09(C)
DO	6.63 mg/L		ASTM D888-09(C)
pH (Field)	7.86 SU		EPA 150.2
Specific Conductance (Field)	819 umho/cm		SM2510B
Temperature	26 °C		SM2550B(2)
Turbidity (Hach)	34.3 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<b>Lab ID #:</b> AB43078	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	816.4 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0008      **Sample Date:** 7/22/2020      **IDEM Sample #:** AB43098  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Stream flow is up due to recent rain

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	76.7 %		ASTM D888-09(C)
DO	6.62 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	203 umho/cm		SM2510B
Temperature	22.8 °C		SM2550B(2)
Turbidity (Hach)	> 1000 NTU	1000	EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43098a	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 241960 MPN/100mL	241960	SM9223B
E. coli	36540 MPN/100mL	100	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0008      Sample Date: 7/29/2020      IDEM Sample #: AB43118  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Water appearance greenish brown

Lab ID #:	Result	Reporting Limit	Method
% Sat	102.9 %		ASTM D888-09(C)
DO	8.05 mg/L		ASTM D888-09(C)
pH (Field)	7.91 SU		EPA 150.2
Specific Conductance (Field)	817 umho/cm		SM2510B
Temperature	28 °C		SM2550B(2)
Turbidity (Hach)	32.9 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43118	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	91.1 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0009      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Tilley Ditch      **County:** Knox  
**Description:** E Pepmeir Road      **Latitude:** 38 50 6.57523      **Longitude:** -87 21 47.52254  
**Drainage:**      **Site Number:** 20T-006

**SiteID:** WBU-18-0009      **Sample Date:** 6/15/2020      **IDEM Sample #:** AB42541  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	114.8 %		ASTM D888-09(C)
DO	9.94 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	607 umho/cm		SM2510B
Temperature	22.4 °C		SM2550B(2)
Turbidity (Hach)	10.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #: 500-183767-9</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	20 mg/L	2	EPA 300.0
Hardness (as CaCO3)	250 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	13 mg/L	5	SM2540D
Solids, Total (TS)	440 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	430 mg/L	10	SM2540C
Sulfate	79 mg/L	2	EPA 300.0
Calcium (Total)	65 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	37 mg/L	10	SM5220C
Nitrogen, Ammonia	0.22 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.068 mg/L	0.05	SM4500P-E
TKN	0.7 mg/L	0.4	SM4500N(Org)-D
TOC	2.4 mg/L	1	SM5310C

<u>Lab ID #: AB42541</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	61.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0009

**Sample Date:** 7/7/2020

**IDEM Sample #:** AB43069

**Water Flow Type** Run

**Water Appearance** Clear

**Water Depth**  **Algae?**

**Water Flow (cf/sec):**

**Flow Estimated?**

**Aquatic Life?**

**Canopy Closed %** 0-20%

**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	135.2 %		ASTM D888-09(C)
DO	10.82 mg/L		ASTM D888-09(C)
pH (Field)	7.81 SU		EPA 150.2
Specific Conductance (Field)	559 umho/cm		SM2510B
Temperature	26.8 °C		SM2550B(2)
Turbidity (Hach)	9.17 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: 500-184718-8</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Alkalinity (as CaCO3)	210 mg/L	5	SM2320B
Chloride	15 mg/L	2	EPA 300.0
Hardness (as CaCO3)	260 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	13 mg/L	5	SM2540D
Solids, Total (TS)	390 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	230 mg/L	30	SM2540C
Sulfate	51 mg/L	2	EPA 300.0
Calcium (Total)	66 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.17 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.2 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.055 mg/L	0.05	SM4500P-E
TKN	0.37 mg/L	0.4	SM4500N(Org)-D
TOC	2.4 mg/L	1	SM5310C
<b>Lab ID #: AB43069</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	125 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0009      **Sample Date:** 7/13/2020      **IDEM Sample #:** AB42962  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Forgot isopropanol and jars. Collected into jar of water, then picked up rubbing alcohol and mason jars at store immediately after and preserved.

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.2 %		ASTM D888-09(C)
DO	8.08 mg/L		ASTM D888-09(C)
pH (Field)	7.71 SU		EPA 150.2
Specific Conductance (Field)	702 umho/cm		SM2510B
Temperature	20.119 °C		SM2550B(2)
Turbidity (Hach)	5.49 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**SiteID:** WBU-18-0009      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB43089  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	120.3 %		ASTM D888-09(C)
DO	10.2 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	587 umho/cm		SM2510B
Temperature	23.5 °C		SM2550B(2)
Turbidity (Hach)	9.58 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #:	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	24.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0009      Sample Date: 7/21/2020      IDEM Sample #: AB43109  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	115.6 %		ASTM D888-09(C)
DO	9.87 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	554 umho/cm		SM2510B
Temperature	23.1 °C		SM2550B(2)
Turbidity (Hach)	6.47 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB43109</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	72.8 MPN/100mL	1	SM9223B

SiteID: WBU-18-0009      Sample Date: 7/28/2020      IDEM Sample #: AB43129  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	98.5 %		ASTM D888-09(C)
DO	8.31 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	555 umho/cm		SM2510B
Temperature	23.8 °C		SM2550B(2)
Turbidity (Hach)	12.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB43129</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	151.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0010      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Tributary of Maria Creek      **County:** Knox  
**Description:** County Road 700 E, Lane Road      **Latitude:** 38 51 17.67748      **Longitude:** -87 20 3.32353  
**Drainage:**      **Site Number:** 20T-007

**SiteID:** WBU-18-0010      **Sample Date:** 6/15/2020      **IDEM Sample #:** AB42538  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	170.8 %		ASTM D888-09(C)
DO	14.65 mg/L		ASTM D888-09(C)
pH (Field)	8.2 SU		EPA 150.2
Specific Conductance (Field)	608 umho/cm		SM2510B
Temperature	22.9 °C		SM2550B(2)
Turbidity (Hach)	4.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #: 500-183767-6</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	54 mg/L	2	EPA 300.0
Hardness (as CaCO3)	230 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	7 mg/L	5	SM2540D
Solids, Total (TS)	400 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	430 mg/L	10	SM2540C
Sulfate	45 mg/L	2	EPA 300.0
Calcium (Total)	57 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	17 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	6.1 mg/L	1	SM4500NO3-F
Phosphorus, Total	0.067 mg/L	0.05	SM4500P-E
TKN	1 mg/L	0.4	SM4500N(Org)-D
TOC	3 mg/L	1	SM5310C

<u>Lab ID #: AB42538</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	816.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0010      Sample Date: 6/22/2020      IDEM Sample #: AB42674  
 Water Flow Type    Glide      Water Appearance    Clear      Water Depth       Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed %    0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	173.6 %		ASTM D888-09(C)
DO	14.62 mg/L		ASTM D888-09(C)
pH (Field)	8.25 SU		EPA 150.2
Specific Conductance (Field)	638 umho/cm		SM2510B
Temperature	23.9 °C		SM2550B(2)
Turbidity (Hach)	5.41 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

SiteID: WBU-18-0010      Sample Date: 7/7/2020      IDEM Sample #: AB43066  
 Water Flow Type    Glide      Water Appearance    Clear      Water Depth       Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed %    0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	173.8 %		ASTM D888-09(C)
DO	12.77 mg/L		ASTM D888-09(C)
pH (Field)	8.53 SU		EPA 150.2
Specific Conductance (Field)	586 umho/cm		SM2510B
Temperature	30.7 °C		SM2550B(2)
Turbidity (Hach)	6.65 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-5	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	71 mg/L	2	EPA 300.0
Hardness (as CaCO3)	190 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	9 mg/L	5	SM2540D
Solids, Total (TS)	390 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	270 mg/L	30	SM2540C
Sulfate	42 mg/L	2	EPA 300.0
Calcium (Total)	41 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	24 mg/L	10	SM5220C
Nitrogen, Ammonia	0.19 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.22 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.068 mg/L	0.05	SM4500P-E
TKN	0.93 mg/L	0.4	SM4500N(Org)-D
TOC	6.5 mg/L	1	SM5310C

Lab ID #: AB43066	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	2419.6 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0010      **Sample Date:** 7/13/2020      **IDEM Sample #:** AB42970  
**Water Flow Type** Stagnant      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Nearly no flow. Lots of filamentous algae. Warm like dirty bath water. Very small unionid found, picture taken. Added to bench sheet.

Lab ID #:	Result	Reporting Limit	Method
% Sat	166.1 %		ASTM D888-09(C)
DO	12.92 mg/L		ASTM D888-09(C)
pH (Field)	8.32 SU		EPA 150.2
Specific Conductance (Field)	758 umho/cm		SM2510B
Temperature	28.27 °C		SM2550B(2)
Turbidity (Hach)	13.8 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0010      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB43086  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	94.3 %		ASTM D888-09(C)
DO	7.8 mg/L		ASTM D888-09(C)
pH (Field)	7.69 SU		EPA 150.2
Specific Conductance (Field)	737 umho/cm		SM2510B
Temperature	24.9 °C		SM2550B(2)
Turbidity (Hach)	8.39 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43086	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	727 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0010      **Sample Date:** 7/21/2020      **IDEM Sample #:** AB43106  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Very low flow. Stream nearly pooled.

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	76 %		ASTM D888-09(C)
DO	6.02 mg/L		ASTM D888-09(C)
pH (Field)	8.27 SU		EPA 150.2
Specific Conductance (Field)	590 umho/cm		SM2510B
Temperature	21.1 °C		SM2550B(2)
Turbidity (Hach)	11.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<b>Lab ID #:</b> AB43106	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0010      Sample Date: 7/28/2020      IDEM Sample #: AB43126  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Very low flow. Stream nearly pooled.

Lab ID #:	Result	Reporting Limit	Method
% Sat	97.7 %		ASTM D888-09(C)
DO	7.77 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	455 umho/cm		SM2510B
Temperature	27.1 °C		SM2550B(2)
Turbidity (Hach)	6.85 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43126	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1986.3 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0011      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Tributary of Maria Creek      **County:** Knox  
**Description:** County Road 900 N, E Lower Freelandvill      **Latitude:** 38 51 29.73365      **Longitude:** -87 21 36.30306  
**Drainage:**      **Site Number:** 20T-008

**SiteID:** WBU-18-0011      **Sample Date:** 6/15/2020      **IDEM Sample #:** AB42540  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	115.9 %		ASTM D888-09(C)
DO	10.31 mg/L		ASTM D888-09(C)
pH (Field)	7.99 SU		EPA 150.2
Specific Conductance (Field)	558 umho/cm		SM2510B
Temperature	21 °C		SM2550B(2)
Turbidity (Hach)	7.43 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 500-183767-8	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	220 mg/L	5	SM2320B
Chloride	21 mg/L	2	EPA 300.0
Hardness (as CaCO3)	280 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	9 mg/L	5	SM2540D
Solids, Total (TS)	390 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	390 mg/L	10	SM2540C
Sulfate	25 mg/L	2	EPA 300.0
Calcium (Total)	69 mg/L	0.2	EPA 200.7
Magnesium (Total)	25 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.26 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	5 mg/L	1	SM4500NO3-F
Phosphorus, Total	0.065 mg/L	0.05	SM4500P-E
TKN	0.87 mg/L	0.4	SM4500N(Org)-D
TOC	2.3 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42540	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	488.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0011      Sample Date: 6/22/2020      IDEM Sample #: AB42675  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	104.5 %		ASTM D888-09(C)
DO	9.01 mg/L		ASTM D888-09(C)
pH (Field)	7.94 SU		EPA 150.2
Specific Conductance (Field)	556 umho/cm		SM2510B
Temperature	22.7 °C		SM2550B(2)
Turbidity (Hach)	7.72 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	2 Lookup		Observation

SiteID: WBU-18-0011      Sample Date: 7/7/2020      IDEM Sample #: AB43068  
 Water Flow Type Glide      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	113.1 %		ASTM D888-09(C)
DO	8.89 mg/L		ASTM D888-09(C)
pH (Field)	8.01 SU		EPA 150.2
Specific Conductance (Field)	579 umho/cm		SM2510B
Temperature	27.6 °C		SM2550B(2)
Turbidity (Hach)	20.9 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-7	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	250 mg/L	5	SM2320B
Chloride	18 mg/L	2	EPA 300.0
Hardness (as CaCO3)	300 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	20 mg/L	5	SM2540D
Solids, Total (TS)	380 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	240 mg/L	30	SM2540C
Sulfate	23 mg/L	2	EPA 300.0
Calcium (Total)	73 mg/L	0.2	EPA 200.7
Magnesium (Total)	28 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.4 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.067 mg/L	0.05	SM4500P-E
TKN	0.54 mg/L	0.4	SM4500N(Org)-D
TOC	3.3 mg/L	1	SM5310C

Lab ID #: AB43068	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	727 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0011      **Sample Date:** 7/13/2020      **IDEM Sample #:** AB42969  
**Water Flow Type** Pool      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	136.4 %		ASTM D888-09(C)
DO	10.8 mg/L		ASTM D888-09(C)
pH (Field)	8 SU		EPA 150.2
Specific Conductance (Field)	526 umho/cm		SM2510B
Temperature	27.09 °C		SM2550B(2)
Turbidity (Hach)	12.8 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0011      Sample Date: 7/14/2020      IDEM Sample #: AB43088  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	80.1 %		ASTM D888-09(C)
DO	6.86 mg/L		ASTM D888-09(C)
pH (Field)	7.61 SU		EPA 150.2
Specific Conductance (Field)	554 umho/cm		SM2510B
Temperature	22.9 °C		SM2550B(2)
Turbidity (Hach)	17.2 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43088	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1732.9 MPN/100mL	1	SM9223B

SiteID: WBU-18-0011      Sample Date: 7/21/2020      IDEM Sample #: AB43108  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Very low flow

Lab ID #:	Result	Reporting Limit	Method
% Sat	44.2 %		ASTM D888-09(C)
DO	3.6 mg/L		ASTM D888-09(C)
pH (Field)	7.41 SU		EPA 150.2
Specific Conductance (Field)	498 umho/cm		SM2510B
Temperature	25.7 °C		SM2550B(2)
Turbidity (Hach)	25.3 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43108	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0011      Sample Date: 7/28/2020      IDEM Sample #: AB43128  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):       Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Very low flow

Lab ID #:	Result	Reporting Limit	Method
% Sat	52.1 %		ASTM D888-09(C)
DO	4.27 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	567 umho/cm		SM2510B
Temperature	25.4 °C		SM2550B(2)
Turbidity (Hach)	9.97 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43128	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1553.1 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0013      **USGS Hydrologic Unit:** 051201111802  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** County Road 900 N      **Latitude:** 38 51 30.84594      **Longitude:** -87 21 12.18373  
**Drainage:**      **Site Number:** 20T-009

**SiteID:** WBU-18-0013      **Sample Date:** 6/15/2020      **IDEM Sample #:** AB42539  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	140.9 %		ASTM D888-09(C)
DO	12.44 mg/L		ASTM D888-09(C)
pH (Field)	8.28 SU		EPA 150.2
Specific Conductance (Field)	627 umho/cm		SM2510B
Temperature	21.3 °C		SM2550B(2)
Turbidity (Hach)	12.2 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

<u>Lab ID #: 500-183767-7</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	22 mg/L	2	EPA 300.0
Hardness (as CaCO3)	200 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	13 mg/L	5	SM2540D
Solids, Total (TS)	430 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	460 mg/L	10	SM2540C
Sulfate	120 mg/L	4	EPA 300.0
Calcium (Total)	48 mg/L	0.2	EPA 200.7
Magnesium (Total)	19 mg/L	0.1	EPA 200.7
COD	19 mg/L	10	SM5220C
Nitrogen, Ammonia	0.14 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.5 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.065 mg/L	0.05	SM4500P-E
TKN	0.68 mg/L	0.4	SM4500N(Org)-D
TOC	3 mg/L	1	SM5310C

<u>Lab ID #: AB42539</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	121.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0013

Sample Date: 6/23/2020

IDEM Sample #: AB42676

Water Flow Type

Water Appearance

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	118.5 %		ASTM D888-09(C)
DO	9.98 mg/L		ASTM D888-09(C)
pH (Field)	8.23 SU		EPA 150.2
Specific Conductance (Field)	714 umho/cm		SM2510B
Temperature	23.9 °C		SM2550B(2)
Turbidity (Hach)	10.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: WBU-18-0013

Sample Date: 7/7/2020

IDEM Sample #: AB43067

Water Flow Type Riffle

Water Appearance

Murky

Water Depth

Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	90.1 %		ASTM D888-09(C)
DO	7.02 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	1014 umho/cm		SM2510B
Temperature	28.1 °C		SM2550B(2)
Turbidity (Hach)	13.7 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-6	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	23 mg/L	2	EPA 300.0
Hardness (as CaCO3)	170 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	30 mg/L	5	SM2540D
Solids, Total (TS)	760 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	590 mg/L	30	SM2540C
Sulfate	280 mg/L	10	EPA 300.0
Calcium (Total)	36 mg/L	0.2	EPA 200.7
Magnesium (Total)	19 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.05 mg/L	0.05	SM4500P-E
TKN	0.52 mg/L	0.4	SM4500N(Org)-D
TOC	4 mg/L	1	SM5310C

Lab ID #: AB43067	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	59.8 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0013      **Sample Date:** 7/13/2020      **IDEM Sample #:** AB42968  
**Water Flow Type** Pool      **Water Appearance** Green      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	169.7 %		ASTM D888-09(C)
DO	13.22 mg/L		ASTM D888-09(C)
pH (Field)	8.6 SU		EPA 150.2
Specific Conductance (Field)	1255 umho/cm		SM2510B
Temperature	28.091 °C		SM2550B(2)
Turbidity (Hach)	12.3 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0013      Sample Date: 7/14/2020      IDEM Sample #: AB43087  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	104.7 %		ASTM D888-09(C)
DO	8.81 mg/L		ASTM D888-09(C)
pH (Field)	7.97 SU		EPA 150.2
Specific Conductance (Field)	1242 umho/cm		SM2510B
Temperature	23.8 °C		SM2550B(2)
Turbidity (Hach)	13.4 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB43087</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	30 MPN/100mL	1	SM9223B

SiteID: WBU-18-0013      Sample Date: 7/21/2020      IDEM Sample #: AB43107  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	104.9 %		ASTM D888-09(C)
DO	8.34 mg/L		ASTM D888-09(C)
pH (Field)	8.03 SU		EPA 150.2
Specific Conductance (Field)	1297 umho/cm		SM2510B
Temperature	26.9 °C		SM2550B(2)
Turbidity (Hach)	23.5 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB43107</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	110.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SitID: WBU-18-0013

Sample Date: 7/28/2020

IDEM Sample #: AB43127

Water Flow Type Run

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	93.7 %		ASTM D888-09(C)
DO	7.6 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	873 umho/cm		SM2510B
Temperature	25.8 °C		SM2550B(2)
Turbidity (Hach)	52.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43127	Result	Reporting Limit	Method
E. coli	613.1 MPN/100mL	1	SM9223B

Lab ID #: AB43127a	Result	Reporting Limit	Method
Coliforms (Total)	34480 MPN/100mL	100	SM9223B

Weather Code Definitions					
SC Sky Conditions		WD Wind Direction		WS Wind Strength	AT Air Temp
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU190-0001      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Knox  
**Description:** E Springtown Road      **Latitude:** 38 49 42.46832      **Longitude:** -87 23 59.53848  
**Drainage:** 23      **Site Number:** 20T-010

**SiteID:** WBU190-0001      **Sample Date:** 6/16/2020      **IDEM Sample #:** AB42529  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	117.5 %		ASTM D888-09(C)
DO	10.28 mg/L		ASTM D888-09(C)
pH (Field)	8.14 SU		EPA 150.2
Specific Conductance (Field)	1006 umho/cm		SM2510B
Temperature	21.8 °C		SM2550B(2)
Turbidity (Hach)	5.22 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

<u>Lab ID #:</u> 500-183767-14	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	80 mg/L	10	EPA 300.0
Hardness (as CaCO3)	320 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	9.5 mg/L	5	SM2540D
Solids, Total (TS)	800 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	760 mg/L	10	SM2540C
Sulfate	210 mg/L	10	EPA 300.0
Calcium (Total)	90 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.32 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.9 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.065 mg/L	0.05	SM4500P-E
TKN	0.61 mg/L	0.4	SM4500N(Org)-D
TOC	2 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42529	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	365.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU190-0001      **Sample Date:** 6/22/2020      **IDEM Sample #:** AB42677  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	116 %		ASTM D888-09(C)
DO	10.01 mg/L		ASTM D888-09(C)
pH (Field)	8.06 SU		EPA 150.2
Specific Conductance (Field)	1055 umho/cm		SM2510B
Temperature	22.6 °C		SM2550B(2)
Turbidity (Hach)	4.33 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	1 Lookup		Observation

**SiteID:** WBU190-0001      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB43057  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	129 %		ASTM D888-09(C)
DO	9.93 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	854 umho/cm		SM2510B
Temperature	28.9 °C		SM2550B(2)
Turbidity (Hach)	5.62 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-13	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	66 mg/L	2	EPA 300.0
Hardness (as CaCO3)	280 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	9.5 mg/L	5	SM2540D
Solids, Total (TS)	590 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	380 mg/L	30	SM2540C
Sulfate	150 mg/L	4	EPA 300.0
Calcium (Total)	76 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	9.8 mg/L	10	SM5220C
Nitrogen, Ammonia	0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.7 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E
TKN	0.36 mg/L	0.4	SM4500N(Org)-D
TOC	2.7 mg/L	1	SM5310C

Lab ID #: AB43057	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	118.2 MPN/100mL	1	SM9223B

**SiteID:** WBU190-0001      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB42967  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	163.5 %		ASTM D888-09(C)
DO	11.71 mg/L		ASTM D888-09(C)
pH (Field)	8.5 SU		EPA 150.2
Specific Conductance (Field)	873 umho/cm		SM2510B
Temperature	33.1 °C		SM2550B(2)
Turbidity (Hach)	14.7 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU190-0001      Sample Date: 7/15/2020      IDEM Sample #: AB43077  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	108.1 %		ASTM D888-09(C)
DO	9.1 mg/L		ASTM D888-09(C)
pH (Field)	7.95 SU		EPA 150.2
Specific Conductance (Field)	841 umho/cm		SM2510B
Temperature	23.8 °C		SM2550B(2)
Turbidity (Hach)	4.34 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43077	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	325.5 MPN/100mL	1	SM9223B

SiteID: WBU190-0001      Sample Date: 7/22/2020      IDEM Sample #: AB43097  
 Water Flow Type Run      Water Appearance Brown      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Stream flow is up due to recent rain

Lab ID #:	Result	Reporting Limit	Method
% Sat	82.2 %		ASTM D888-09(C)
DO	6.93 mg/L		ASTM D888-09(C)
pH (Field)	7.7 SU		EPA 150.2
Specific Conductance (Field)	624 umho/cm		SM2510B
Temperature	23.9 °C		SM2550B(2)
Turbidity (Hach)	213 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43097a	Result	Reporting Limit	Method
Coliforms (Total)	> 241960 MPN/100mL	241960	SM9223B
E. coli	5810 MPN/100mL	100	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU190-0001

Sample Date: 7/29/2020

IDEM Sample #: AB43117

Water Flow Type Riffle

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	128.3 %		ASTM D888-09(C)
DO	9.32 mg/L		ASTM D888-09(C)
pH (Field)	8.13 SU		EPA 150.2
Specific Conductance (Field)	716 umho/cm		SM2510B
Temperature	32.2 °C		SM2550B(2)
Turbidity (Hach)	7.34 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43117	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	189.2 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0012      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Knox  
**Description:** E Hunley Road      **Latitude:** 38 51 14.83083      **Longitude:** -87 24 2.25881  
**Drainage:**      **Site Number:** 20T-011

**SiteID:** WBU-18-0012      **Sample Date:** 6/16/2020      **IDEM Sample #:** AB42528  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	113.2 %		ASTM D888-09(C)
DO	9.84 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	1035 umho/cm		SM2510B
Temperature	22.2 °C		SM2550B(2)
Turbidity (Hach)	5.15 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

<u>Lab ID #:</u> 500-183767-13	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	90 mg/L	10	EPA 300.0
Hardness (as CaCO3)	320 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	6.5 mg/L	5	SM2540D
Solids, Total (TS)	820 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	790 mg/L	10	SM2540C
Sulfate	240 mg/L	10	EPA 300.0
Calcium (Total)	91 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7
COD	9.4 mg/L	10	SM5220C
Nitrogen, Ammonia	0.17 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.7 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.071 mg/L	0.05	SM4500P-E
TKN	0.67 mg/L	0.4	SM4500N(Org)-D
TOC	2.1 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42528	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	410.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0012      **Sample Date:** 6/22/2020      **IDEM Sample #:** AB42678  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	137.7 %		ASTM D888-09(C)
DO	11.1 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	1148 umho/cm		SM2510B
Temperature	26.3 °C		SM2550B(2)
Turbidity (Hach)	4.26 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	3 Lookup		Observation

**SiteID:** WBU-18-0012      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB43056  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	154.4 %		ASTM D888-09(C)
DO	11.69 mg/L		ASTM D888-09(C)
pH (Field)	8.23 SU		EPA 150.2
Specific Conductance (Field)	885 umho/cm		SM2510B
Temperature	29.8 °C		SM2550B(2)
Turbidity (Hach)	3.52 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-12	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	180 mg/L	5	SM2320B
Chloride	74 mg/L	2	EPA 300.0
Hardness (as CaCO3)	290 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	5 mg/L	5	SM2540D
Solids, Total (TS)	680 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	520 mg/L	30	SM2540C
Sulfate	180 mg/L	4	EPA 300.0
Calcium (Total)	81 mg/L	0.2	EPA 200.7
Magnesium (Total)	22 mg/L	0.1	EPA 200.7
COD	7.2 mg/L	10	SM5220C
Nitrogen, Ammonia	0.23 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.8 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.11 mg/L	0.05	SM4500P-E
TKN	0.49 mg/L	0.4	SM4500N(Org)-D
TOC	2.7 mg/L	1	SM5310C

Lab ID #: AB43056	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	435.2 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0012      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB43076  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	111.1 %		ASTM D888-09(C)
DO	9.29 mg/L		ASTM D888-09(C)
pH (Field)	7.9 SU		EPA 150.2
Specific Conductance (Field)	853 umho/cm		SM2510B
Temperature	24.2 °C		SM2550B(2)
Turbidity (Hach)	3.72 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43076	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	270 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0012      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB42976  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Progomphus digging in sand under bridge

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	144.8 %		ASTM D888-09(C)
DO	10.33 mg/L		ASTM D888-09(C)
pH (Field)	8.25 SU		EPA 150.2
Specific Conductance (Field)	901 umho/cm		SM2510B
Temperature	30.6 °C		SM2550B(2)
Turbidity (Hach)	14.4 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**SiteID:** WBU-18-0012      **Sample Date:** 7/22/2020      **IDEM Sample #:** AB43096  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Stream flow is up due to recent rain

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	76 %		ASTM D888-09(C)
DO	6.41 mg/L		ASTM D888-09(C)
pH (Field)	7.65 SU		EPA 150.2
Specific Conductance (Field)	583 umho/cm		SM2510B
Temperature	23.9 °C		SM2550B(2)
Turbidity (Hach)	315 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43096a	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 241960 MPN/100mL	241960	SM9223B
E. coli	12230 MPN/100mL	100	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0012

Sample Date: 7/29/2020

IDEM Sample #: AB43116

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	172 %		ASTM D888-09(C)
DO	12.11 mg/L		ASTM D888-09(C)
pH (Field)	8.39 SU		EPA 150.2
Specific Conductance (Field)	852 umho/cm		SM2510B
Temperature	34.6 °C		SM2550B(2)
Turbidity (Hach)	4.29 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43116	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	74.2 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0015      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Knox  
**Description:** E Moody Road      **Latitude:** 38 53 40.47876      **Longitude:** -87 25 19.41824  
**Drainage:**      **Site Number:** 20T-012

**SiteID:** WBU-18-0015      **Sample Date:** 6/16/2020      **IDEM Sample #:** AB42527  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	100.9 %		ASTM D888-09(C)
DO	9.01 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	1273 umho/cm		SM2510B
Temperature	20.7 °C		SM2550B(2)
Turbidity (Hach)	4.91 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	2 Lookup		Observation

<u>Lab ID #:</u> 500-183767-12	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	120 mg/L	10	EPA 300.0
Hardness (as CaCO3)	360 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	5.5 mg/L	5	SM2540D
Solids, Total (TS)	970 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	890 mg/L	10	SM2540C
Sulfate	310 mg/L	10	EPA 300.0
Calcium (Total)	100 mg/L	0.2	EPA 200.7
Magnesium (Total)	25 mg/L	0.1	EPA 200.7
COD	11 mg/L	10	SM5220C
Nitrogen, Ammonia	0.24 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.8 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.061 mg/L	0.05	SM4500P-E
TKN	0.43 mg/L	0.4	SM4500N(Org)-D
TOC	1.9 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42527	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	488.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0015      **Sample Date:** 6/23/2020      **IDEM Sample #:** AB42679  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	112.7 %		ASTM D888-09(C)
DO	9.45 mg/L		ASTM D888-09(C)
pH (Field)	7.98 SU		EPA 150.2
Specific Conductance (Field)	1240 umho/cm		SM2510B
Temperature	24 °C		SM2550B(2)
Turbidity (Hach)	6.09 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	3 Lookup		Observation

**SiteID:** WBU-18-0015      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB43055  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	109.4 %		ASTM D888-09(C)
DO	8.93 mg/L		ASTM D888-09(C)
pH (Field)	7.85 SU		EPA 150.2
Specific Conductance (Field)	1031 umho/cm		SM2510B
Temperature	25.9 °C		SM2550B(2)
Turbidity (Hach)	11.9 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-11	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	85 mg/L	5	EPA 300.0
Hardness (as CaCO3)	320 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	14 mg/L	5	SM2540D
Solids, Total (TS)	690 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	570 mg/L	30	SM2540C
Sulfate	220 mg/L	5	EPA 300.0
Calcium (Total)	89 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7
COD	11 mg/L	10	SM5220C
Nitrogen, Ammonia	0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	2.6 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.1 mg/L	0.05	SM4500P-E
TKN	0.45 mg/L	0.4	SM4500N(Org)-D
TOC	2.5 mg/L	1	SM5310C

Lab ID #: AB43055	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	727 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0015      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB43075  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.4 %		ASTM D888-09(C)
DO	7.88 mg/L		ASTM D888-09(C)
pH (Field)	7.66 SU		EPA 150.2
Specific Conductance (Field)	908 umho/cm		SM2510B
Temperature	21.5 °C		SM2550B(2)
Turbidity (Hach)	15.4 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43075	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	2419.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0015      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB42975  
**Water Flow Type** Glide      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	163 %		ASTM D888-09(C)
DO	12.29 mg/L		ASTM D888-09(C)
pH (Field)	8.27 SU		EPA 150.2
Specific Conductance (Field)	953 umho/cm		SM2510B
Temperature	30 °C		SM2550B(2)
Turbidity (Hach)	12.1 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	3 Lookup		Observation

**SiteID:** WBU-18-0015      **Sample Date:** 7/22/2020      **IDEM Sample #:** AB43095  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Stream flow is up due to recent rain

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	72.6 %		ASTM D888-09(C)
DO	6.25 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	207 umho/cm		SM2510B
Temperature	22.9 °C		SM2550B(2)
Turbidity (Hach)	408 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation

<b>Lab ID #:</b> AB43095a	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 241960 MPN/100mL	241960	SM9223B
E. coli	48840 MPN/100mL	100	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0015

Sample Date: 7/29/2020

IDEM Sample #: AB43115

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	155.6 %		ASTM D888-09(C)
DO	11.64 mg/L		ASTM D888-09(C)
pH (Field)	8.18 SU		EPA 150.2
Specific Conductance (Field)	950 umho/cm		SM2510B
Temperature	29.9 °C		SM2550B(2)
Turbidity (Hach)	11.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43115	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	980.4 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0016      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Sullivan  
**Description:** S County Road 50 E      **Latitude:** 38 55 22.25295      **Longitude:** -87 24 13.53507  
**Drainage:**      **Site Number:** 20T-013

**SiteID:** WBU-18-0016      **Sample Date:** 6/16/2020      **IDEM Sample #:** AB42526  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	117.6 %		ASTM D888-09(C)
DO	10.51 mg/L		ASTM D888-09(C)
pH (Field)	8 SU		EPA 150.2
Specific Conductance (Field)	1780 umho/cm		SM2510B
Temperature	20.6 °C		SM2550B(2)
Turbidity (Hach)	5.52 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 500-183767-11	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	180 mg/L	20	EPA 300.0
Hardness (as CaCO3)	410 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	11 mg/L	5	SM2540D
Solids, Total (TS)	1300 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	1300 mg/L	10	SM2540C
Sulfate	480 mg/L	20	EPA 300.0
Calcium (Total)	120 mg/L	0.2	EPA 200.7
Magnesium (Total)	28 mg/L	0.1	EPA 200.7
COD	10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.5 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.033 mg/L	0.05	SM4500P-E
TKN	0.59 mg/L	0.4	SM4500N(Org)-D
TOC	1.6 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42526	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	155.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0016      **Sample Date:** 6/23/2020      **IDEM Sample #:** AB42680  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	105.9 %		ASTM D888-09(C)
DO	9.07 mg/L		ASTM D888-09(C)
pH (Field)	7.87 SU		EPA 150.2
Specific Conductance (Field)	1686 umho/cm		SM2510B
Temperature	22.8 °C		SM2550B(2)
Turbidity (Hach)	4.34 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	3 Lookup		Observation

**SiteID:** WBU-18-0016      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB43054  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	70 %		ASTM D888-09(C)
DO	5.76 mg/L		ASTM D888-09(C)
pH (Field)	7.43 SU		EPA 150.2
Specific Conductance (Field)	1522 umho/cm		SM2510B
Temperature	25 °C		SM2550B(2)
Turbidity (Hach)	5.02 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-10	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	150 mg/L	10	EPA 300.0
Hardness (as CaCO3)	380 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	9 mg/L	5	SM2540D
Solids, Total (TS)	1100 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	900 mg/L	30	SM2540C
Sulfate	390 mg/L	10	EPA 300.0
Calcium (Total)	110 mg/L	0.2	EPA 200.7
Magnesium (Total)	27 mg/L	0.1	EPA 200.7
COD	12 mg/L	10	SM5220C
Nitrogen, Ammonia	0.29 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	4.3 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.045 mg/L	0.05	SM4500P-E
TKN	0.44 mg/L	0.4	SM4500N(Org)-D
TOC	2.2 mg/L	1	SM5310C

Lab ID #: AB43054	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	49.6 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0016      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB43074  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	70.2 %		ASTM D888-09(C)
DO	6.17 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	1286 umho/cm		SM2510B
Temperature	21.5 °C		SM2550B(2)
Turbidity (Hach)	4.08 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43074	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	260.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0016      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB42974  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Riffle sampled 27 m downstream of reach

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	71.7 %		ASTM D888-09(C)
DO	6.29 mg/L		ASTM D888-09(C)
pH (Field)	7.74 SU		EPA 150.2
Specific Conductance (Field)	1306 umho/cm		SM2510B
Temperature	21.624 °C		SM2550B(2)
Turbidity (Hach)	4.31 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**SiteID:** WBU-18-0016      **Sample Date:** 7/22/2020      **IDEM Sample #:** AB43094  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Stream flow is up due to recent rain

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	80.3 %		ASTM D888-09(C)
DO	6.89 mg/L		ASTM D888-09(C)
pH (Field)	7.55 SU		EPA 150.2
Specific Conductance (Field)	315 umho/cm		SM2510B
Temperature	23 °C		SM2550B(2)
Turbidity (Hach)	259 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43094a	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 241960 MPN/100mL	241960	SM9223B
E. coli	24810 MPN/100mL	100	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0016

Sample Date: 7/29/2020

IDEM Sample #: AB43114

Water Flow Type Run

Water Appearance Clear

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	102.9 %		ASTM D888-09(C)
DO	8.22 mg/L		ASTM D888-09(C)
pH (Field)	7.8 SU		EPA 150.2
Specific Conductance (Field)	1285 umho/cm		SM2510B
Temperature	26.7 °C		SM2550B(2)
Turbidity (Hach)	6.35 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43114	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	206.4 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0017      **USGS Hydrologic Unit:** 051201111803  
**Stream Name:** Marsh Creek      **County:** Sullivan  
**Description:** S County Road 5 SE      **Latitude:** 38 56 7.96040      **Longitude:** -87 22 58.67837  
**Drainage:**      **Site Number:** 20T-014

**SiteID:** WBU-18-0017      **Sample Date:** 6/16/2020      **IDEM Sample #:** AB42525  
**Water Flow Type** Stagnant      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	69.1 %		ASTM D888-09(C)
DO	6.5 mg/L		ASTM D888-09(C)
pH (Field)	7.45 SU		EPA 150.2
Specific Conductance (Field)	526 umho/cm		SM2510B
Temperature	18.8 °C		SM2550B(2)
Turbidity (Hach)	12.9 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 500-183767-10	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	170 mg/L	5	SM2320B
Chloride	41 mg/L	2	EPA 300.0
Hardness (as CaCO3)	220 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	9.5 mg/L	5	SM2540D
Solids, Total (TS)	370 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	390 mg/L	10	SM2540C
Sulfate	31 mg/L	2	EPA 300.0
Calcium (Total)	51 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7
COD	16 mg/L	10	SM5220C
Nitrogen, Ammonia	0.22 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.14 mg/L	0.05	SM4500P-E
TKN	0.78 mg/L	0.4	SM4500N(Org)-D
TOC	2.6 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42525	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	461.1 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0017      **Sample Date:** 6/23/2020      **IDEM Sample #:** AB42681  
**Water Flow Type** Glide      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	72.3 %		ASTM D888-09(C)
DO	6.48 mg/L		ASTM D888-09(C)
pH (Field)	7.38 SU		EPA 150.2
Specific Conductance (Field)	478.5 umho/cm		SM2510B
Temperature	20.6 °C		SM2550B(2)
Turbidity (Hach)	8.34 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	0 Lookup		Observation
Wind Strength	3 Lookup		Observation

**SiteID:** WBU-18-0017      **Sample Date:** 7/8/2020      **IDEM Sample #:** AB43053  
**Water Flow Type** Pool      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Very low flow - nearly pooled.

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	25 %		ASTM D888-09(C)
DO	2.17 mg/L		ASTM D888-09(C)
pH (Field)	7.46 SU		EPA 150.2
Specific Conductance (Field)	410 umho/cm		SM2510B
Temperature	24.4 °C		SM2550B(2)
Turbidity (Hach)	24.5 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-9	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	22 mg/L	2	EPA 300.0
Hardness (as CaCO3)	200 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	23 mg/L	5	SM2540D
Solids, Total (TS)	320 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	130 mg/L	30	SM2540C
Sulfate	8.8 mg/L	0.4	EPA 300.0
Calcium (Total)	47 mg/L	0.2	EPA 200.7
Magnesium (Total)	21 mg/L	0.1	EPA 200.7
COD	18 mg/L	10	SM5220C
Nitrogen, Ammonia	0.32 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.085 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.2 mg/L	0.05	SM4500P-E
TKN	0.58 mg/L	0.4	SM4500N(Org)-D
TOC	5.2 mg/L	1	SM5310C

Lab ID #: AB43053	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1986.3 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0017      **Sample Date:** 7/15/2020      **IDEM Sample #:** AB43073  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Very low flow. Stream nearly pooled.

Lab ID #:	Result	Reporting Limit	Method
% Sat	25.1 %		ASTM D888-09(C)
DO	2.2 mg/L		ASTM D888-09(C)
pH (Field)	7.46 SU		EPA 150.2
Specific Conductance (Field)	452 umho/cm		SM2510B
Temperature	21.7 °C		SM2550B(2)
Turbidity (Hach)	8.27 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43073	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	172.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0017      **Sample Date:** 7/22/2020      **IDEM Sample #:** AB43093  
**Water Flow Type** Run      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Stream flow is up due to recent rain

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	81.2 %		ASTM D888-09(C)
DO	7.05 mg/L		ASTM D888-09(C)
pH (Field)	7.47 SU		EPA 150.2
Specific Conductance (Field)	99 umho/cm		SM2510B
Temperature	22.4 °C		SM2550B(2)
Turbidity (Hach)	297 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43093a	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 241960 MPN/100mL	241960	SM9223B
E. coli	36540 MPN/100mL	100	SM9223B

**SiteID:** WBU-18-0017      **Sample Date:** 7/29/2020      **IDEM Sample #:** AB43113  
**Water Flow Type** Stagnant      **Water Appearance** Brown      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**  **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	90.1 %		ASTM D888-09(C)
DO	7.38 mg/L		ASTM D888-09(C)
pH (Field)	7.6 SU		EPA 150.2
Specific Conductance (Field)	213 umho/cm		SM2510B
Temperature	25.4 °C		SM2550B(2)
Turbidity (Hach)	49.2 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

<b>Lab ID #:</b> AB43113	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1119.9 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

<b>Weather Code Definitions</b>					
<b>SC Sky Conditions</b>		<b>WD Wind Direction</b>		<b>WS Wind Strength</b>	<b>AT Air Temp</b>
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0014      **USGS Hydrologic Unit:** 051201111801  
**Stream Name:** Tributary of Maria Creek      **County:** Knox  
**Description:** Freelandville Road      **Latitude:** 38 52 51.70769      **Longitude:** -87 21 10.19095  
**Drainage:**      **Site Number:** 20T-015

**SiteID:** WBU-18-0014      **Sample Date:** 6/15/2020      **IDEM Sample #:** AB42536  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	91.4 %		ASTM D888-09(C)
DO	8.64 mg/L		ASTM D888-09(C)
pH (Field)	7.83 SU		EPA 150.2
Specific Conductance (Field)	529 umho/cm		SM2510B
Temperature	18.1 °C		SM2550B(2)
Turbidity (Hach)	5.91 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 500-183767-4	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	21 mg/L	2	EPA 300.0
Hardness (as CaCO3)	260 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	9.5 mg/L	5	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	390 mg/L	10	SM2540C
Sulfate	25 mg/L	2	EPA 300.0
Calcium (Total)	64 mg/L	0.2	EPA 200.7
Magnesium (Total)	24 mg/L	0.1	EPA 200.7
COD	9.9 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	4.9 mg/L	1	SM4500NO3-F
Phosphorus, Total	0.054 mg/L	0.05	SM4500P-E
TKN	0.91 mg/L	0.4	SM4500N(Org)-D
TOC	2.1 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42536	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	> 2419.6 MPN/100mL	2419.6	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0014      **Sample Date:** 6/22/2020      **IDEM Sample #:** AB42682  
**Water Flow Type** Glide      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	143.4 %		ASTM D888-09(C)
DO	11.82 mg/L		ASTM D888-09(C)
pH (Field)	8.2 SU		EPA 150.2
Specific Conductance (Field)	481.1 umho/cm		SM2510B
Temperature	25 °C		SM2550B(2)
Turbidity (Hach)	5.67 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	2 Lookup		Observation

**SiteID:** WBU-18-0014      **Sample Date:** 7/7/2020      **IDEM Sample #:** AB43064  
**Water Flow Type** Glide      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	20.9 %		ASTM D888-09(C)
DO	1.69 mg/L		ASTM D888-09(C)
pH (Field)	7.58 SU		EPA 150.2
Specific Conductance (Field)	400 umho/cm		SM2510B
Temperature	25.8 °C		SM2550B(2)
Turbidity (Hach)	14.7 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-3	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	190 mg/L	5	SM2320B
Chloride	20 mg/L	2	EPA 300.0
Hardness (as CaCO3)	230 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	13 mg/L	5	SM2540D
Solids, Total (TS)	360 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	180 mg/L	30	SM2540C
Sulfate	28 mg/L	2	EPA 300.0
Calcium (Total)	51 mg/L	0.2	EPA 200.7
Magnesium (Total)	26 mg/L	0.1	EPA 200.7
COD	23 mg/L	10	SM5220C
Nitrogen, Ammonia	0.13 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	< 0.1 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.14 mg/L	0.05	SM4500P-E
TKN	0.87 mg/L	0.4	SM4500N(Org)-D
TOC	4.5 mg/L	1	SM5310C

Lab ID #: AB43064	Result	Reporting Limit	Method
E. coli	727 MPN/100mL	1	SM9223B

Lab ID #: AB43064a	Result	Reporting Limit	Method
Coliforms (Total)	92080 MPN/100mL	100	SM9223B

**SiteID:** WBU-18-0014      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB43084  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Very low flow. Stream nearly pooled.

Lab ID #:	Result	Reporting Limit	Method
% Sat	48.8 %		ASTM D888-09(C)
DO	4.2 mg/L		ASTM D888-09(C)
pH (Field)	7.39 SU		EPA 150.2
Specific Conductance (Field)	442 umho/cm		SM2510B
Temperature	22.7 °C		SM2550B(2)
Turbidity (Hach)	14.9 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43084	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	56.3 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0014      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB42966  
**Water Flow Type** Stagnant      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	76.6 %		ASTM D888-09(C)
DO	6.27 mg/L		ASTM D888-09(C)
pH (Field)	7.75 SU		EPA 150.2
Specific Conductance (Field)	437.7 umho/cm		SM2510B
Temperature	25.395 °C		SM2550B(2)
Turbidity (Hach)	14.6 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**SiteID:** WBU-18-0014      **Sample Date:** 7/21/2020      **IDEM Sample #:** AB43104  
**Water Flow Type** Pool      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Very low flow. Stream nearly pooled.

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	52 %		ASTM D888-09(C)
DO	4.18 mg/L		ASTM D888-09(C)
pH (Field)	7.54 SU		EPA 150.2
Specific Conductance (Field)	459 umho/cm		SM2510B
Temperature	26.6 °C		SM2550B(2)
Turbidity (Hach)	6.62 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43104	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	51.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0014      Sample Date: 7/28/2020      IDEM Sample #: AB43124  
 Water Flow Type Stagnant      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Stream nearly pooled. Very low flow

Lab ID #:	Result	Reporting Limit	Method
% Sat	20 %		ASTM D888-09(C)
DO	1.65 mg/L		ASTM D888-09(C)
pH (Field)	7.19 SU		EPA 150.2
Specific Conductance (Field)	347 umho/cm		SM2510B
Temperature	25.1 °C		SM2550B(2)
Turbidity (Hach)	6.6 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43124	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	64.5 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU190-0002      **USGS Hydrologic Unit:** 051201111801  
**Stream Name:** Maria Creek      **County:** Knox  
**Description:** CR 1050 N/Freelandville Road      **Latitude:** 38 52 54.21809      **Longitude:** -87 20 48.04908  
**Drainage:** 22      **Site Number:** 20T-016

**SiteID:** WBU190-0002      **Sample Date:** 6/15/2020      **IDEM Sample #:** AB42535  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	98.2 %		ASTM D888-09(C)
DO	9.08 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	757 umho/cm		SM2510B
Temperature	19 °C		SM2550B(2)
Turbidity (Hach)	8.24 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #: 500-183767-3</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	17 mg/L	2	EPA 300.0
Hardness (as CaCO3)	160 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	6 mg/L	5	SM2540D
Solids, Total (TS)	510 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	530 mg/L	10	SM2540C
Sulfate	210 mg/L	5	EPA 300.0
Calcium (Total)	39 mg/L	0.2	EPA 200.7
Magnesium (Total)	15 mg/L	0.1	EPA 200.7
COD	20 mg/L	10	SM5220C
Nitrogen, Ammonia	0.19 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	1.2 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.054 mg/L	0.05	SM4500P-E
TKN	0.87 mg/L	0.4	SM4500N(Org)-D
TOC	3.5 mg/L	1	SM5310C

<u>Lab ID #: AB42535</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	104.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU190-0002      Sample Date: 6/22/2020      IDEM Sample #: AB42683  
 Water Flow Type: Glide      Water Appearance: Clear      Water Depth:  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed %: 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	219.4 %		ASTM D888-09(C)
DO	17.14 mg/L		ASTM D888-09(C)
pH (Field)	8.69 SU		EPA 150.2
Specific Conductance (Field)	761 umho/cm		SM2510B
Temperature	28.1 °C		SM2550B(2)
Turbidity (Hach)	8.12 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	2 Lookup		Observation

SiteID: WBU190-0002      Sample Date: 7/7/2020      IDEM Sample #: AB43063  
 Water Flow Type: Riffle      Water Appearance: Clear      Water Depth:  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed %: 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	66 %		ASTM D888-09(C)
DO	5.33 mg/L		ASTM D888-09(C)
pH (Field)	7.87 SU		EPA 150.2
Specific Conductance (Field)	1123 umho/cm		SM2510B
Temperature	26.1 °C		SM2550B(2)
Turbidity (Hach)	15.1 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-2	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	23 mg/L	2	EPA 300.0
Hardness (as CaCO3)	180 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	11 mg/L	5	SM2540D
Solids, Total (TS)	840 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	740 mg/L	30	SM2540C
Sulfate	330 mg/L	10	EPA 300.0
Calcium (Total)	40 mg/L	0.2	EPA 200.7
Magnesium (Total)	18 mg/L	0.1	EPA 200.7
COD	14 mg/L	10	SM5220C
Nitrogen, Ammonia	0.2 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.21 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.033 mg/L	0.05	SM4500P-E
TKN	0.57 mg/L	0.4	SM4500N(Org)-D
TOC	3.7 mg/L	1	SM5310C

Lab ID #: AB43063	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	214.2 MPN/100mL	1	SM9223B

**SiteID:** WBU190-0002      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB43083  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	77.2 %		ASTM D888-09(C)
DO	6.74 mg/L		ASTM D888-09(C)
pH (Field)	7.82 SU		EPA 150.2
Specific Conductance (Field)	1272 umho/cm		SM2510B
Temperature	21.8 °C		SM2550B(2)
Turbidity (Hach)	4.81 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43083	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	109.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU190-0002      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB42965  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** adjacent soy fields being sprayed while sampling

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	111.7 %		ASTM D888-09(C)
DO	9.56 mg/L		ASTM D888-09(C)
pH (Field)	8.3 SU		EPA 150.2
Specific Conductance (Field)	1282 umho/cm		SM2510B
Temperature	22.924 °C		SM2550B(2)
Turbidity (Hach)	3.74 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**SiteID:** WBU190-0002      **Sample Date:** 7/21/2020      **IDEM Sample #:** AB43103  
**Water Flow Type** Run      **Water Appearance** Murky      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	81.8 %		ASTM D888-09(C)
DO	6.6 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	1319 umho/cm		SM2510B
Temperature	26.1 °C		SM2550B(2)
Turbidity (Hach)	9.98 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	6 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

<b>Lab ID #:</b> AB43103	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	187.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SitID: WBU190-0002

Sample Date: 7/28/2020

IDEM Sample #: AB43123

Water Flow Type Run

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	84.7 %		ASTM D888-09(C)
DO	6.96 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	962 umho/cm		SM2510B
Temperature	25.1 °C		SM2550B(2)
Turbidity (Hach)	36.5 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43123	Result	Reporting Limit	Method
E. coli	613.1 MPN/100mL	1	SM9223B

Lab ID #: AB43123a	Result	Reporting Limit	Method
Coliforms (Total)	51720 MPN/100mL	100	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0018      **USGS Hydrologic Unit:** 051201111801  
**Stream Name:** Tributary of Maria Creek      **County:** Knox  
**Description:** County Road 700 E, Lane Road      **Latitude:** 38 52 13.62972      **Longitude:** -87 20 2.55504  
**Drainage:**      **Site Number:** 20T-017

**SiteID:** WBU-18-0018      **Sample Date:** 6/15/2020      **IDEM Sample #:** AB42537  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	117 %		ASTM D888-09(C)
DO	10.53 mg/L		ASTM D888-09(C)
pH (Field)	7.94 SU		EPA 150.2
Specific Conductance (Field)	512 umho/cm		SM2510B
Temperature	21.7 °C		SM2550B(2)
Turbidity (Hach)	22.8 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	1 Lookup		Observation

<u>Lab ID #:</u> 500-183767-5	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	140 mg/L	5	SM2320B
Chloride	39 mg/L	2	EPA 300.0
Hardness (as CaCO3)	190 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	9.5 mg/L	5	SM2540D
Solids, Total (TS)	360 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	370 mg/L	10	SM2540C
Sulfate	55 mg/L	2	EPA 300.0
Calcium (Total)	49 mg/L	0.2	EPA 200.7
Magnesium (Total)	17 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.15 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	3.1 mg/L	0.5	SM4500NO3-F
Phosphorus, Total	0.078 mg/L	0.05	SM4500P-E
TKN	0.77 mg/L	0.4	SM4500N(Org)-D
TOC	2.9 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42537	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	517.2 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0018      **Sample Date:** 6/22/2020      **IDEM Sample #:** AB42684  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	186 %		ASTM D888-09(C)
DO	14.6 mg/L		ASTM D888-09(C)
pH (Field)	8.54 SU		EPA 150.2
Specific Conductance (Field)	506 umho/cm		SM2510B
Temperature	27.9 °C		SM2550B(2)
Turbidity (Hach)	5.46 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**SiteID:** WBU-18-0018      **Sample Date:** 7/7/2020      **IDEM Sample #:** AB43065  
**Water Flow Type** Glide      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	90.7 %		ASTM D888-09(C)
DO	7.14 mg/L		ASTM D888-09(C)
pH (Field)	7.84 SU		EPA 150.2
Specific Conductance (Field)	641 umho/cm		SM2510B
Temperature	27.8 °C		SM2550B(2)
Turbidity (Hach)	7.94 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-4	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	160 mg/L	5	SM2320B
Chloride	52 mg/L	2	EPA 300.0
Hardness (as CaCO3)	230 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	13 mg/L	5	SM2540D
Solids, Total (TS)	490 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	260 mg/L	30	SM2540C
Sulfate	92 mg/L	2	EPA 300.0
Calcium (Total)	56 mg/L	0.2	EPA 200.7
Magnesium (Total)	23 mg/L	0.1	EPA 200.7
COD	12 mg/L	10	SM5220C
Nitrogen, Ammonia	0.17 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.64 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.069 mg/L	0.05	SM4500P-E
TKN	0.6 mg/L	0.4	SM4500N(Org)-D
TOC	3.4 mg/L	1	SM5310C

Lab ID #: AB43065	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	410.6 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0018      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB42964  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	45.7 %		ASTM D888-09(C)
DO	3.52 mg/L		ASTM D888-09(C)
pH (Field)	7.68 SU		EPA 150.2
Specific Conductance (Field)	501 umho/cm		SM2510B
Temperature	22.44 °C		SM2550B(2)
Turbidity (Hach)	6.41 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0018      Sample Date: 7/14/2020      IDEM Sample #: AB43085  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: very low flow

Lab ID #:	Result	Reporting Limit	Method
% Sat	66.3 %		ASTM D888-09(C)
DO	5.62 mg/L		ASTM D888-09(C)
pH (Field)	7.57 SU		EPA 150.2
Specific Conductance (Field)	496 umho/cm		SM2510B
Temperature	22.5 °C		SM2550B(2)
Turbidity (Hach)	17.7 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	0 Lookup		Observation
<b>Lab ID #: AB43085</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	648.8 MPN/100mL	1	SM9223B

SiteID: WBU-18-0018      Sample Date: 7/21/2020      IDEM Sample #: AB43105  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments: Very low flow.

Lab ID #:	Result	Reporting Limit	Method
% Sat	44.8 %		ASTM D888-09(C)
DO	3.67 mg/L		ASTM D888-09(C)
pH (Field)	7.53 SU		EPA 150.2
Specific Conductance (Field)	557 umho/cm		SM2510B
Temperature	25.4 °C		SM2550B(2)
Turbidity (Hach)	8.74 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	4 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	1 Lookup		Observation
<b>Lab ID #: AB43105</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	410.6 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0018      Sample Date: 7/28/2020      IDEM Sample #: AB43125  
 Water Flow Type Pool      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.1 %		ASTM D888-09(C)
DO	7.23 mg/L		ASTM D888-09(C)
pH (Field)	7.73 SU		EPA 150.2
Specific Conductance (Field)	620 umho/cm		SM2510B
Temperature	25.9 °C		SM2550B(2)
Turbidity (Hach)	3.69 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43125	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	1203.3 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0019      **USGS Hydrologic Unit:** 051201111801  
**Stream Name:** Maria Creek      **County:** Sullivan  
**Description:** E County Road 1050 S      **Latitude:** 38 55 27.71266      **Longitude:** -87 19 59.22943  
**Drainage:**      **Site Number:** 20T-018

**SiteID:** WBU-18-0019      **Sample Date:** 6/15/2020      **IDEM Sample #:** AB42534  
**Water Flow Type** Riffle      **Water Appearance** Clear      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	96.2 %		ASTM D888-09(C)
DO	8.88 mg/L		ASTM D888-09(C)
pH (Field)	7.93 SU		EPA 150.2
Specific Conductance (Field)	853 umho/cm		SM2510B
Temperature	19.1 °C		SM2550B(2)
Turbidity (Hach)	7.88 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #: 500-183767-2</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	150 mg/L	5	SM2320B
Chloride	14 mg/L	2	EPA 300.0
Hardness (as CaCO3)	150 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	4.5 mg/L	5	SM2540D
Solids, Total (TS)	570 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	600 mg/L	10	SM2540C
Sulfate	250 mg/L	10	EPA 300.0
Calcium (Total)	37 mg/L	0.2	EPA 200.7
Magnesium (Total)	15 mg/L	0.1	EPA 200.7
COD	13 mg/L	10	SM5220C
Nitrogen, Ammonia	0.17 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.81 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.039 mg/L	0.05	SM4500P-E
TKN	0.71 mg/L	0.4	SM4500N(Org)-D
TOC	3.3 mg/L	1	SM5310C

<u>Lab ID #: AB42534</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	222.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0019      **Sample Date:** 6/22/2020      **IDEM Sample #:** AB42685  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	106.5 %		ASTM D888-09(C)
DO	8.89 mg/L		ASTM D888-09(C)
pH (Field)	8.22 SU		EPA 150.2
Specific Conductance (Field)	968 umho/cm		SM2510B
Temperature	24.3 °C		SM2550B(2)
Turbidity (Hach)	10.1 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

**SiteID:** WBU-18-0019      **Sample Date:** 7/7/2020      **IDEM Sample #:** AB43062  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

<b>Lab ID #:</b>	<b>Result</b>	<b>Reporting Limit</b>	<b>Method</b>
% Sat	94.5 %		ASTM D888-09(C)
DO	7.68 mg/L		ASTM D888-09(C)
pH (Field)	8.15 SU		EPA 150.2
Specific Conductance (Field)	1179 umho/cm		SM2510B
Temperature	25.8 °C		SM2550B(2)
Turbidity (Hach)	13.7 NTU		EPA 180.1
Air Temp	6 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

Lab ID #: 500-184718-1	Result	Reporting Limit	Method
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	23 mg/L	2	EPA 300.0
Hardness (as CaCO3)	160 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	12 mg/L	5	SM2540D
Solids, Total (TS)	840 mg/L	30	SM2540B
Solids, Total Dissolved (TDS)	740 mg/L	30	SM2540C
Sulfate	350 mg/L	10	EPA 300.0
Calcium (Total)	37 mg/L	0.2	EPA 200.7
Magnesium (Total)	17 mg/L	0.1	EPA 200.7
COD	10 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.71 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.08 mg/L	0.05	SM4500P-E
TKN	0.54 mg/L	0.4	SM4500N(Org)-D
TOC	3.1 mg/L	1	SM5310C

Lab ID #: AB43062	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	517.2 MPN/100mL	1	SM9223B

**SiteID:** WBU-18-0019      **Sample Date:** 7/14/2020      **IDEM Sample #:** AB43082  
**Water Flow Type** Run      **Water Appearance** Clear      **Water Depth**  **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:**

Lab ID #:	Result	Reporting Limit	Method
% Sat	92.3 %		ASTM D888-09(C)
DO	7.95 mg/L		ASTM D888-09(C)
pH (Field)	8.05 SU		EPA 150.2
Specific Conductance (Field)	1295 umho/cm		SM2510B
Temperature	22.6 °C		SM2550B(2)
Turbidity (Hach)	9.55 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43082	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	275.5 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0019      Sample Date: 7/15/2020      IDEM Sample #: AB42972  
 Water Flow Type Riffle      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	109.6 %		ASTM D888-09(C)
DO	9.05 mg/L		ASTM D888-09(C)
pH (Field)	8.38 SU		EPA 150.2
Specific Conductance (Field)	1317 umho/cm		SM2510B
Temperature	24.875 °C		SM2550B(2)
Turbidity (Hach)	7.57 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	3 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: WBU-18-0019      Sample Date: 7/21/2020      IDEM Sample #: AB43102  
 Water Flow Type Riffle      Water Appearance Murky      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	88.8 %		ASTM D888-09(C)
DO	7.07 mg/L		ASTM D888-09(C)
pH (Field)	8.09 SU		EPA 150.2
Specific Conductance (Field)	1338 umho/cm		SM2510B
Temperature	26.9 °C		SM2550B(2)
Turbidity (Hach)	15.3 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	6 Lookup		Observation
Wind Direction	18 Lookup		Observation
Wind Strength	0 Lookup		Observation

Lab ID #: AB43102	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0019

Sample Date: 7/28/2020

IDEM Sample #: AB43122

Water Flow Type Run

Water Appearance Murky

Water Depth  Algae?

Water Flow (cf/sec):

Flow Estimated?

Aquatic Life?

Canopy Closed % 0-20%

Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	89.7 %		ASTM D888-09(C)
DO	7.25 mg/L		ASTM D888-09(C)
pH (Field)	7.88 SU		EPA 150.2
Specific Conductance (Field)	1049 umho/cm		SM2510B
Temperature	26.1 °C		SM2550B(2)
Turbidity (Hach)	35 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

Lab ID #: AB43122	Result	Reporting Limit	Method
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	290.9 MPN/100mL	1	SM9223B

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

**SiteID:** WBU-18-0020      **USGS Hydrologic Unit:** 051201111801  
**Stream Name:** Maria Creek      **County:** Sullivan  
**Description:** E County Road 975 S      **Latitude:** 38 56 8.07322      **Longitude:** -87 19 23.56253  
**Drainage:**      **Site Number:** 20T-019

**SiteID:** WBU-18-0020      **Sample Date:** 6/15/2020      **IDEM Sample #:** AB42524  
**Water Flow Type** Pool      **Water Appearance** Murky      **Water Depth**       **Algae?**  
**Water Flow (cf/sec):**       **Flow Estimated?**       **Aquatic Life?**      **Canopy Closed %** 0-20%  
**Sampler Comments:** Low flow - nearly dry

<u>Lab ID #:</u>	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
% Sat	51.6 %		ASTM D888-09(C)
DO	4.86 mg/L		ASTM D888-09(C)
pH (Field)	7.5 SU		EPA 150.2
Specific Conductance (Field)	443 umho/cm		SM2510B
Temperature	18.3 °C		SM2550B(2)
Turbidity (Hach)	14 NTU		EPA 180.1
Air Temp	4 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	0 Lookup		Observation

<u>Lab ID #:</u> 500-183767-1	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Alkalinity (as CaCO3)	200 mg/L	5	SM2320B
Chloride	14 mg/L	2	EPA 300.0
Hardness (as CaCO3)	180 mg/L	0.91	SM2340B
Solids, Suspended Total, (TSS)	11 mg/L	5	SM2540D
Solids, Total (TS)	310 mg/L	10	SM2540B
Solids, Total Dissolved (TDS)	310 mg/L	10	SM2540C
Sulfate	10 mg/L	2	EPA 300.0
Calcium (Total)	53 mg/L	0.2	EPA 200.7
Magnesium (Total)	11 mg/L	0.1	EPA 200.7
COD	33 mg/L	10	SM5220C
Nitrogen, Ammonia	0.18 mg/L	0.2	SM4500NH3-G
Nitrogen, Nitrate+Nitrite	0.12 mg/L	0.1	SM4500NO3-F
Phosphorus, Total	0.12 mg/L	0.05	SM4500P-E
TKN	1.2 mg/L	0.4	SM4500N(Org)-D
TOC	8 mg/L	1	SM5310C

<u>Lab ID #:</u> AB42524	<u>Result</u>	<u>Reporting Limit</u>	<u>Method</u>
Coliforms (Total)	> 2419.6 MPN/100mL	2419.6	SM9223B
E. coli	579.4 MPN/100mL	1	SM9223B

**Indiana Department of Environmental Management  
Office of Water Quality-Watershed Assessment and Planning Branch  
Surface Water Results Summary**

SiteID: WBU-18-0020      Sample Date: 6/22/2020      IDEM Sample #: AB42686  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	85.8 %		ASTM D888-09(C)
DO	7.12 mg/L		ASTM D888-09(C)
pH (Field)	8.02 SU		EPA 150.2
Specific Conductance (Field)	997 umho/cm		SM2510B
Temperature	24.6 °C		SM2550B(2)
Turbidity (Hach)	11.5 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	1 Lookup		Observation
Wind Direction	27 Lookup		Observation
Wind Strength	1 Lookup		Observation

SiteID: WBU-18-0020      Sample Date: 7/15/2020      IDEM Sample #: AB42963  
 Water Flow Type Run      Water Appearance Clear      Water Depth  Algae?  
 Water Flow (cf/sec):  Flow Estimated?       Aquatic Life?      Canopy Closed % 0-20%  
 Sampler Comments:

Lab ID #:	Result	Reporting Limit	Method
% Sat	106.6 %		ASTM D888-09(C)
DO	8.41 mg/L		ASTM D888-09(C)
pH (Field)	8.3 SU		EPA 150.2
Specific Conductance (Field)	1325 umho/cm		SM2510B
Temperature	27.395 °C		SM2550B(2)
Turbidity (Hach)	5.76 NTU		EPA 180.1
Air Temp	5 Lookup		Observation
Sky Conditions	2 Lookup		Observation
Wind Direction	9 Lookup		Observation
Wind Strength	2 Lookup		Observation

Weather Code Definitions					
SC	WD	WS	AT		
Sky Conditions	Wind Direction	Wind Strength	Air Temp		
1 - Clear	8 - Rain	0	North (0 Degrees)	0 - Calm	1 - < 32
2 - Scattered	9 - Snow	9	East (90 Degrees)	1 - Light	2 - 33-45
3 - Partly	10 - Sleet	18	South (180 Degrees)	2 - Mod./Light	3 - 46-60
4 - Cloudy		27	West (270 Degrees)	3 - Moderate	4 - 61-75
5 - Mist				4 - Mod./Strong	5 - 76-85
6 - Fog				5 - Strong	6 - > 86
7 - Shower				6 - Gale	